



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup>:</b> <b>C23C 18/20, 14/20, 18/54, C25D 5/56</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 00/20656</b> <b>(43) International Publication Date:</b> 13 April 2000 (13.04.00)
<b>(21) International Application Number:</b> PCT/DK99/00523 <b>(22) International Filing Date:</b> 4 October 1999 (04.10.99) <b>(30) Priority Data:</b> PA 1998 01247 2 October 1998 (02.10.98) DK <b>(71) Applicant (for all designated States except US):</b> N.K.T. RESEARCH CENTER A/S [DK/DK]; Priorparken 878, DK-2605 Brøndby (DK). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> GLEJBØL, Kristian [DK/DK]; Fiskerhusene 8, DK-2620 Albertslund (DK). WINTHER-JENSEN, Bjørn [DK/DK]; Hornemannsgade 17, DK-2100 Copenhagen Ø (DK). <b>(74) Agent:</b> HOFMAN-BANG & BOUTARD, LEHMANN & REE A/S; Hans Bekkevolds Allé 7, DK-2900 Hellerup (DK).		<b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title: A METHOD OF METALLIZING THE SURFACE OF A SOLID POLYMER SUBSTRATE AND THE PRODUCT OBTAINED</b>		
<b>(57) Abstract</b> <p>A method of metallizing a solid polymer substrate comprising the steps of: a) generating radicals on the substrate surface by subjecting it to a gas plasma, b) forming a layer on the surface using a plasma enhanced polymerisation process employing one or more monomers comprising monomers selected among cyano acrylate, mono- and diacrylates, such as acrylic acid, triethylen glycol diacrylate, glycidyl acrylate, isocyanates, such as 1,4-diisocyanobutane, toluenediisocyanate, epoxy compounds, such as glycidyl methacrylate, preferably 2,3-epoxypropyl methacrylate, allylic and vinylic compounds, such as vinyl acetic acid, vinyl norbonene, vinyl pyrrolidone, vinyl trimethoxysilane, vinyl trimethylsilane allylene, allyl alcohol, allyloxymethylsilane, allylphenol, allylurea 1-allylthiourea(thiosineamine), c) providing a short surface deposition using a PVD or CVD process to deposit metal atoms, such as copper, tin, silver palladium, platinum, or gold, and d) optionally providing a metallization of the surface by using a conventional electroless bath, or avoiding electroless metallization by using direct electrolytic metallization, when the metal layer formed in c) has a thickness allowing electrolytic metallization.</p>		